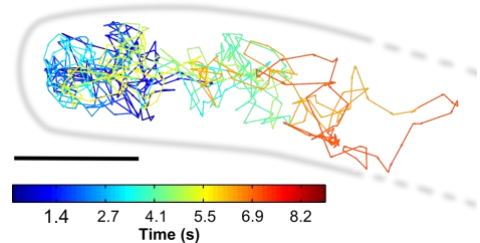
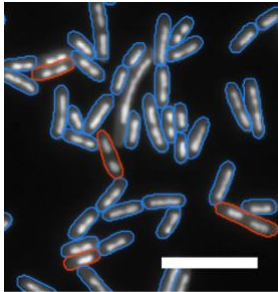


Exciting Opportunity for Two Postdoctoral Researchers

Join our **Oxford Gene Machines' Group** to work on **single-molecule studies of transcription inside living cells**



Ready for a scientific **single-molecule mission** in the fascinating world of a living cell?

We are looking for two Postdoctoral Research Scientists to join our Oxford [Gene Machines' group](#) led by Professor Achilles Kapanidis. The group is located at the state-of-the-art [Kavli Institute for Nanoscience Discovery](#) and is known for developing single-molecule and single-cell fluorescence methods (Uphoff *PNAS* 2013; Robb, *Sci Reports* 2019; [Zagajewski, Nature Comm Biol 2023](#)) and instruments (such as the [Nanoimager](#)), and applying them to proteins working on DNA and RNA (Stracy, *PNAS* 2015; Mazumder, *PNAS* 2020; Mazumder, *eLife* 2021; [El Sayyed Mol Cell 2024](#)).

Our mission in this Wellcome-funded [project](#) is to elucidate the mechanisms of gene transcription by visualising the chemical reaction, its kinetics, and key conformational changes at the single-molecule level and in real-time -- all within the crowded environment of a living cell.

This mission is an **interdisciplinary team effort** that links biologists, biophysicists, biochemists, and data scientists within the group. Our quest should lead to new discoveries, insightful comparisons with *in vitro* studies, and new opportunities for antibiotic development, while contributing to the next generation of *in vivo* single-molecule methods.

The first post is on **Single-Molecule Imaging of Bacterial Gene expression (4-year post)**. You will develop and apply novel single-molecule and super-resolution microscopes, as well as imaging and data-analysis methods to study DNA-binding proteins in living bacteria. The ideal candidate should have a PhD in Biophysics, Optics or related field, and experience in biological single-molecule imaging, programming, and data analysis. We are interested in experimentalists passionate about advanced microscopy and its applications to biological systems. Click [here](#) for details.

The second post is on **Data Analysis of Biological Images (4-year post)**. You will develop software tools and algorithms to analyse large data sets from single-molecule and single-cell studies in living/fixed bacterial cultures that contain labeled transcription proteins or DNA sensors; part of the analysis will involve AI, especially deep learning. The candidate should possess a PhD in Physics, Computer Science/Vision, Engineering or related field. We are particularly interested in researchers who enjoy working with colleagues from different disciplines and want to learn more about biology and biophysics. Click [here](#) for details.



Apply by November 15th, 2024.

For enquiries, email Prof Kapanidis at kapanidis@physics.ox.ac.uk.